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## In the Words of the Wise

*H. Guyford Stever*

Continuing SGR's series of conversations about the turbulence in science and government politics with veteran members of the Washington science-policy community.

*During a career that began at the World War II MIT Radiation Laboratory, Guy Stever has served as Professor of Engineering at MIT, Chief Scientist of the Air Force (1955-56), President of Carnegie Mellon University (1965-72), Director of the National Science Foundation (1972-76), and White House Science Advisor (1976-77). Since leaving full-time government service, he has served on many corporate boards and, as a member of the National Academy of Sciences and the Academy of Engineering, is well-known in Washington research-policy circles as a workhorse on government advisory committees. Stever spoke with SGR Editor Greenberg on February 16. Following is the text, transcribed and edited by SGR.*

*SGR. Can the research system absorb the kind of cuts they're talking about in Washington—33 percent over the next six or seven years?*

*Stever.* I guarantee you, if somebody really had complete control of the quality of our system, and could cut out everything at the low level, we could survive beautifully on less money. We thought about this problem when we were preparing the Press report [*Allocating Federal Funds for Science and Technology*, produced in November by a committee of the National Academy of Sciences chaired by former NAS President Frank Press]. The best thing we did was try to get the business of quality judgment more broadly spread, to get much more attention to it, in all of the different institutions that government supports. That would help us a great deal if we have this contracting budget. We recommended a system that would put quality in.

*SGR. What would you cut out?*

*Stever.* The lower level.

*SGR. Do you mean the lesser institutions, the ones that receive support but aren't in the big leagues of research?*

*Stever.* No, I'm not going to clean up by institution, I'm going to clean up by programs. And the lesser institutions could easily get some support. In fact, I wouldn't abandon institutions. I would abandon programs.

*SGR. The taxpayers are told that everything is competitively reviewed. The Advanced Technology Program [ATP] at NIST [National Institute of Standards and Technology] says the applications go through extremely strict review.*

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## Engineering Academy Head Deprived of Power and Pay

In a rare public eruption of internal strife in the high echelons of science and technology, the President of the National Academy of Engineering (NAE) has been censured by his fellow officers and deprived of the major powers of his office and part of his salary. Meanwhile, specially engaged legal counsel is searching for a means to toss him out of the Presidency of the NAE, a semi-autonomous part of the venerable National Academy of Sciences (NAS).

The target of these efforts is Harold Liebowitz, 72, for many an exasperating character, who last year won an upset election to the NAE Presidency against the overt opposition of the Academy's inner circle. Since taking office in September, Liebowitz has been increasingly at odds with the

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## In Brief

The patchwork condition of major segments of the federal budget has been overshadowed by the suddenly dramatic Republican Presidential primary race. March 15 is the expiration date of temporary spending bills for big chunks of the federal government, including NASA, NSF and the Commerce and Interior Departments. The avoidance of another shutdown depends on Congressional passage and White House approval of the full money bills or another batch of continuing resolutions. Neither is considered a certainty as Congress returns to a packed agenda following a three-week recess.

*Adding to the fiscal confusion is the long delay in presentation of the budget for the coming fiscal year, 1997, which begins next October 1. Customarily released early in February, it's been postponed to March 18 because of the unfinished business with this year's budget. The late delivery reduces the time for Congressional hearings, which virtually guarantees another spillover of unfinished business into the next fiscal year. In the absence of final appropriations bills, spending authority is held to prior-year levels or the lower figure of either house—which usually means a budget standstill or reduction.*

Striving for that innovative image, despite an empty wallet, President Clinton on February 15 proclaimed "a national mission to make all children technologically literate by the dawn of the 21st century, equipped with communication, math, science, and critical thinking skills essential to prepare them for the Information Age." To provide \$2 billion over five years for this feat, "other lower priority programs will have to be frozen, cut, or eliminated," according to a White House announcement. The lower ones were not identified.

## ... A Declaration of 'No Confidence' in NAE Chief

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NAE's governing Council of old boys, which has accused him of trying to run a one-man show at their stuffy institution, where committee work, decision-making in slow-motion, consensus and dignity are revered

Expressing "no confidence" in Liebowitz in a resolution adopted on February 15, the 17-member Council of the Academy of Sciences—the senior partner in the Academy combine—stripped him of his powers and pay as a member of the National Research Council, the working arm of the two Academies. On February 22, the Council of the Academy of Engineering publicly stated that it "has been concerned about President Liebowitz's leadership and operation of the NAE for some time," adding it "understands the reasons for the NAS Resolution, and its importance to both Academies."

A press release from the Academy of Sciences noted "concerns about the manner in which Dr. Liebowitz has represented the Research Council in interactions with other organizations and sponsors." In plain language, that refers to Liebowitz's openly expressed intentions to expand the size and influence of the NAE, a move that other officials regard as a threat to close cooperation of the two Academies.

His estranged colleagues want Liebowitz to pack up and go, but he is defiantly resisting ouster. On February 22, he told SGR, "I was elected for a six-year term and I have every intention of fulfilling that obligation"—which expires in the year 2001. In a statement that he telephoned to SGR on February 24, Liebowitz accused the National Academy of Sciences of trying "to thwart my efforts to gain federal contracts on behalf of the NAE." The statement, a bit rambling, in the style of many of Liebowitz's pronouncements, accused the NAS of passing "a misplaced resolution" against him, and declared that, in the quest for contracts, "I have sought to coordinate my efforts" with the staff of the National Research Council. Liebowitz concluded by vowing to remain in office: "My intent is to complete my work as President in accordance with the desire of the NAE membership, which chose me in a contested election."

Academy officials glumly acknowledge that under the NAE bylaws, there is no apparent way to oust Liebowitz from the Presidency. Privately, they concede that they're in a mess from which there is no visible escape.

Created in 1964 to satisfy the engineers' desire for a counterpart to the century-old National Academy of Sciences, the NAE, like the NAS, is the honorary peak of its profession and, in tandem with the Academy of Sciences, an advisor to the federal government. The partnership arose out of a desire to speak with one voice in Washington, as well as from fear of ruinous competition for advisory contracts.

Legally, the NAE exists under the NAS charter and its offices are in the longtime NAS headquarters in Washington. Following a rough start, the two have meshed their roles as advisors to the federal government. With memories of separatist sentiments among some NAE engineers in the early

### Ladies Lag at NAE-NAS

Under the new regime, as under the old regime at the National Academy of Engineering, very few women are among those chosen in the annual elections for membership, perhaps the profession's highest honor. The newest class, announced last week, totals 78, of whom three are women, raising the female count to 37 in a US membership of 1841, active and retired. Last year, the NAE elected five women. The Academy of Sciences is slightly better. Last year it elected six women, for a total of 93 women in a membership of 1733.

The old boys who run the place insist that the scarcity of women members simply reflects the history of gender distribution in science and engineering, and that, with election based on achievement, it will take many years for the imbalance to change. In the curtained-off electoral process, the validity of that self-serving explanation is difficult to assess.

days, the managers of both Academies take special pains to cooperate and avoid friction. In fact, they seem to get on extremely well. But there's no doubt that the senior partner in the relationship is the far older and better-recognized National Academy of Sciences—a pillar of science that the engineers have never quite matched.

Cultivating an image of stability and dispassionate expertise, the managers of the Academy of Sciences are dismayed and appalled by the Liebowitz affair, which has elicited chuckles in Washington research-policy circles, where the Academies' high valuation of their own merit is not universally shared. Most alarming for both institutions, however, are the whispers around Washington that, preoccupied with its Presidential turmoil, the NAE has gone dysfunctional.

After simmering for months, the Liebowitz affair boiled over on February 15, when the governing Council of the National Academy of Sciences concluded that it had enough of the ruckus in the adjoining Academy of Engineering, and adopted the resolution of "no confidence" in Liebowitz.

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## ... Rendered Powerless, But He's Still on the Council

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The resolution directed the Chairman of the Research Council, who is also the President of the Academy of Sciences, "not to assign any responsibility to Dr. Liebowitz." And, finally, it cut Liebowitz's salary by decreeing that he should derive no personal income from the overhead charges on NRC activities, which bring in well over \$150 million a year in federal contracts. The size of the pay cut was not revealed, but it's probably a substantial part of his salary, which is in the \$250,000 range.

Those steps, however, do not rid the National Research Council or the NAE of President Liebowitz. Though deprived of authority in Council affairs and NRC-related income by the edict of the Academy of Sciences, which holds the basic Congressional charter for the Academy complex, Liebowitz nonetheless retains the NAE Presidency and with it two ex-officio positions on the Research Council.

As NAE President, he is Vice Chairman of the 13-member governing Board of the Research Council and a member of its Executive Committee. The NAE's designated spokesman in its Liebowitz trauma, Vice President Morris Tanenbaum, a retired AT&T executive, acknowledged to SGR last week that Liebowitz cannot be deprived of those roles as long as he retains the NAE Presidency.

Asked about the next step, Tanenbaum said, "There's no provision in the bylaws to remove the President. That's what we're discussing with lawyers," he explained, adding that "We are in a very difficult position." Lacking inhouse counsel, he said, the NAE has hired legal advice. Tanenbaum said that at a meeting of the NAE Council February 15, Liebowitz "was asked to consider what he might do. He told the staff," Tanenbaum reported, "that he would not resign."

With the Liebowitz affair stirring memories of long-ago tensions between the Science and Engineering academies, both have stressed inter-academy comity in their public pronouncements about the NAE President.

The NAS concluded its denunciation of Liebowitz by asserting, "This action is not intended to harm the excellent relationships that have developed over the years between the National Academy of Sciences and the National Academy of Engineering."

In harmony with the NAS statement, the governing Council of the Academy of Engineering followed up with a public assertion that it "appreciates the NAS statement of the importance of the excellent relationships and joint responsibilities that have existed between the two Academies and shares the desire to continue them."

The Liebowitz Presidency galls the old-time rulers of the NAE because he gained office by tapping into rank-and-file discontent with their style of operation and performance, depicting himself as a populist reformer challenging a conservative ruling clique. As with many professional associations, the NAE management has traditionally favored single-candidate elections. But Liebowitz, former Dean of Engi-

neering at George Washington University, twice challenged the system by going directly to the membership and obtaining a place on the ballot through a cumbersome and rarely used petition process.

In his first try, in 1991, he won 42 percent of the vote against the incumbent, Robert White. Citing that substantial vote, he asked the Nominating Committee to include him on the ballot in 1995, when the Presidential term was increased to six years. The Nominating Committee turned him down—thus feeding the impression of a haughty disregard at the top for the interests of the members.

Liebowitz then went on to win, 697-660, in a membership of some 1400 active academicians, beating the handpicked candidate of the NAE leadership, Cornelius Pings, President of the Association of American Universities. Pings and company were so confident of victory that he announced a departure date from the AAU—later canceled and still his place of work.

The difficulties of dealing with Liebowitz are said to have contributed to the impending exit of one of the leading figures of American industry, Norman Augustine, CEO of Lockheed Martin, from the post of NAE Chairman, the number two position in the NAE hierarchy.

Though a part-time position, unlike the Presidency, the Chairmanship was established to reflect the two big sectors of NAE membership—industry, which has had a lock on the Chairmanship, and academe and government, which has held the Presidency for many years.

Augustine cited his corporate workload in declining another term. But his decision was interpreted as evidence that the Liebowitz problem had worsened, and that view of the matter probably precipitated the NAS's resolution of censure and cropping of Liebowitz's powers.

After months of bickering and indecision involving Liebowitz, the NAE Council, and the Nominating Committee, the Council on February 15 approved a solo nominee for Chairman, Alan M. Lovelace, a retiree who formerly was Senior Corporate Vice President and Chairman of Commercial Launch Services, a General Dynamics subsidiary.

Speaking for the National Academy of Sciences, Executive Officer William Colglazier told SGR that further action on the Liebowitz Presidency "is pretty much in the court of the NAE." NAE Vice President Tanenbaum said that the NAE is awaiting legal advice and that he expects that the governing Council will meet earlier than its routinely scheduled May session. Tanenbaum stressed that any major decisions within the NAE on the Presidency would be submitted to the membership.

It's too early to assess how Liebowitz's supporters in the rank and file will respond to the humiliation of their choice for President. The senior officials of both Academies are moving cautiously, because the potential is there for an upheaval at the Academy of Engineering and a rupture in its good relations with the Academy of Sciences.—DSG

## ... Stever: Everybody Wants a Piece of R&D Pie

*(Continued from Page 1)*

**Stever.** ATP has become a political issue, and a lot of blood is being shed over it.

**SGR.** *The same is true of the dual-use program at the Pentagon. Congress plans to wipe it out.*

**Stever.** The Department of Defense is clever enough to develop a dual-use program right around that. All of the national security agencies are very, very good at keeping a base of technology development. Heavens. The Department of Defense carried the country for a long time. And there is no reason to expect that they won't continue.

**SGR.** *There are strong political forces going against rigid quality control. NSF's EPSCOR [Experimental Program to Stimulate Competitive Research] aims to help institutions that can't qualify for grants at present.*

**Stever.** Those are the realities of a democratic system in which everybody has a right to the pie. EPSCOR and a lot of those other things were the inventions of an affluent society. We're still an affluent society, but not quite so. I would make sure that controls are reasonably good. The Press report was accused of favoring the universities. I fully expect that if we tightened up the quality control, there will be a lot of university programs that won't make it.

**SGR.** *And the government labs?*

**Stever.** There are good government labs and not so good government labs. One of the problems with the government labs is that, like industry, they have the free-wheeling capability to go into any field that they want to go into because they have some people that are interested in it. But they're without the market mechanism that industry has to use to pay for the right.

**SGR.** *What's an example of that?*

**Stever.** The Department of Energy laboratories that shot off into several other areas—environment and so on. And pretty soon they become ensconced there. Excellent people. But they didn't have to compete for that. They just did it because they have the people and there's money in the system. I'm for a little bit more government control of how it spends its money in its own laboratories.

**SGR.** *Are the existing quality-control techniques of competitive peer review suitable for living in these hard times?*

**Stever.** Competitive peer review, if it's watched over pretty carefully, is good for science. I do think there are other ways of quality review. And some of the military services have evolved those means. But you get a little bit of politicking there.

**SGR.** *What do the military services do?*

**Stever.** Back in the old days, I did a lot of consulting with both industry and government on military affairs. The military came up with some pretty good reviews of programs that they were going to go into and for which they actually had proposals for development. The problem was to select them. They would use review teams to score projects, but quite often

the political system would override the review. I hope we can get rid of clearcut pork-barreling, but whether we can ever get rid of a tilt toward politics by the Congress, and sometimes the Administration, I don't know.

Let me just take an example. Right now, because California has so many votes, those votes are being played with respect to what research programs should get pushed through. Like the announcement by the Secretary of Energy that we're going to build the big laser fusion facility at the expense of the Tokamak. That was loaded at the top—politically.

**SGR.** *Do you see the scientific community coming to its own defense?*

**Stever.** They have a fundamental animal instinct to band together to protect their own kind. They're doing that. We've often talked about increasing the public understanding of science, and NSF gives out money for programs for the public understanding of science. But instead of us talking about the public understanding, we ought to talk about the scientists' understanding of the public. We get backfired on when we overclaim for science, when we talk about the beauties of all basic research and claim that it has to be supported at the expense of everything else. We have to get a much better sense of how much we can claim about the importance of research. It hurts us when we overclaim. That's what I mean by the scientific understanding of the public. I think it would be better if we understood how to work more reasonably and sensibly and quietly with members of Congress, the people who are powers in our system. I still think we have enough strength to support the cause of basic science, provided we don't go forth with what I've always dreaded, and that is an arrogance displayed by science—scientists wanting a special place.

**SGR.** *The big Republican freshman class is concerned with deficit reduction above all else.*

**Stever.** The freshman phenomenon, as opposed to the Republican phenomenon, is quite something. When I got to the NSF, I was a Republican appointee and I soon realized that on both sides of the aisles, there were some very wise leaders in Congress. They understood what basic science meant and they understood how important it was to use the fruits of science. And you knew you could go quietly to them and talk about a problem, and they would give you sensible judgments about what the politics were. [House Speaker] Gingrich has some interesting characteristics, but he just couldn't control the freshman class. The Office of Technology Assessment went down simply because those people wanted to cut something out of Congress's own budget, to show they could cut themselves. I think the Advanced Technology Program is suffering in the same way.

**SGR.** *The job situation for the young people is difficult today.*

**Stever.** Here our system has built in its own trouble. Professors used to be poorly paid. Then they became an

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## Medical School Assn. Urges Immigration Curbs

The Association of American Medical Colleges (AAMC) has again responded to a warning of a doctor glut by recommending the exclusion of international medical graduates (IMGs) from US residencies.

The Washington-based organization represents 125 allopathic medical schools, among them more than a few that are wobbling toward insolvency, closures and mergers as managed care and tighter federal budgets drain their revenues. Proposals to put them out of their misery are unmentionable in the trade association of medical education, a membership organization in which all schools are regarded as equal.

However, the large foreign presence in American residencies is fair game. Its principal defenders are those who stress that many of the foreign residents work in inner-city hospitals that American residents prefer to avoid.

While acknowledging "that the country may well be on the verge of a serious oversupply of physicians," AAMC President Jordan Cohen said future supply and demand are far from certain. But, in any case, he said, the burden of reduction shouldn't be inflicted on US students, as proposed by the Pew Health Professions Commission, a foundation-supported fount of unsolicited advice, chaired by former Colorado Governor Richard Lamm.

Last November, in the first draft of a report, "Critical Challenges: Revitalizing the Health Professions for the Twenty-First Century," the Commission forecast a surplus of 100,000-150,000 physicians and recommended a 20-25 percent reduction in US medical school enrollments by the year 2005 [SGR, December 1].

The Pew report said that to assure the maintenance of critical mass in training institutions, the reductions

should be accomplished by closing schools, rather than trimming class sizes across the board. It also called for requiring international medical graduates to "return to their native countries" upon completion of residency training in the US.

Cohen's response was addressed to the final version of the report, issued last month, with minor editorial changes.

Though urging restrictions on foreign medical residents—who now number 45 for each 100 US residents—Cohen questioned whether effective means exist to keep them out. Given that doubt, he said, cutbacks in domestic enrollments might ultimately increase the percentage of foreign physicians in the medical workforce in the US. "The AAMC does not believe that this outcome would be in the public interest," he noted, adding that "the highest priority in addressing the impending physician oversupply is to reduce dramatically the number of IMGs entering residency training in this country."

Cohen did not discuss the institutional collapses that are impending in medical education. He merely said that "the AAMC strongly opposes the Commission's recommendations that US medical schools be closed as a means of decreasing medical enrollment." The Pew plan, he said, "devalues the contributions these schools make to the education of biomedical scientists and other health professionals, and their core research, patient care, and community service activities."

With a grandstanding flourish, the AAMC chief concluded his response by stating that he was "disappointed that the Commission did not make a more constructive contribution to the public debate on the critical issues facing physician workforce policy."

## Steve Q&A

(Continued from Page 4)

affluent part of society, and not just in a few Ivy League schools. The attraction of being on a college faculty was overwhelming. And so a lot of people who came to college wanted to stay right there. And when you got to consulting and starting your own company and all of these things, it became a very profitable life. And then we began to invent the schemes of keeping the students on as postdocs, on and on. Their numbers grew and grew and grew, and the system just outran the capability of the federal government to keep supporting it. We ran into trouble in physics, and now look what's happening in biology. They're stacking their places with postdocs.

**SGR.** Are you suggesting that young people have become the labor force for keeping the system going?

**Steve.** Yes, and they love it. They want to stay there. They're willing to stay as a postdoc in that climate, because

they assume they'll get a professorship. But there aren't that many professorships. A tightening budget will be rough for universities, just as a tightening budget in industry results in people being let go. And in government, too.

**SGR.** Have we overbuilt the research system?

**Steve.** I think we have. But who can say what we need? If you're talking about the need to keep our military the strongest in the world, we can do that. A need to keep our industry the strongest in the world, we can do that. The need to keep our hospitals and medical system the strongest in the world, we can do all that, with the present system and even a smaller system. Therefore, I think that it wouldn't be bad for us to work out schemes of tightening up the growth of the whole research system, including immigration.

(Previous conversations in this series were conducted with Erich Bloch, former NSF Director [Oct. 15]; Maxine Singer, President of the Carnegie Institution of Washington [Dec. 1], and Rep. George Brown, Democrat of California [Feb. 1].)

## A Scary Budget Report from the Director of NSF

*From an address by Neal Lane, Director of the National Science Foundation, February 9 in Baltimore to the annual meeting of the American Association for the Advancement of Science.*

I am sure that all of you are aware that federal funding for science comes out of the small portion of the budget known as "discretionary funds." This means exactly what it sounds like—up to the discretion of the President and Congress and very vulnerable. Entitlements make up half of the \$1.6 trillion federal budget, interest on the national debt 15 percent, and defense 18 percent.

And what's left? The civilian "discretionary budget" comprises only 17 percent of the total federal budget pie. In that limited discretionary slice of the pie, federal dollars for science and technology are not without stiff competition from other important national needs, such as veterans hospitals and housing programs.

To be sure, science has some strong supporters on both sides of the aisle in Congress. This is reflected in the fact that research budgets (NIH, NSF and selected programs in other agencies) have fared relatively well, so far, in the FY '96 appropriations process. But that is not the case for non-defense R&D overall. And the situation gets tougher for FY '97 and the out-years, as downward pressure on the discretionary budget grows.

The AAAS has projected that in the seven-year budget scenario [adopted last year by Congress], non-defense R&D will decrease by approximately 33 percent in real terms by the year 2002. Also of great concern are the projected cuts for education.... In essence, this nation is getting ready to run an experiment it has never done before—to see if we can reduce the federal investment in non-defense R&D by one-third and still be a world leader in the 21st century. Nobody knows with certainty what the outcome will be but it seems like a pretty risky experiment....

You may believe that I am over-reacting to a short-term situation. Perhaps. But my concern is that by the time the damage to our American R&D system is done, the moves to reverse it will be much more difficult, and in some cases impossible....

What we need is the science community's leadership to educate the nation about the value of science and technology to our national well-being.... We have a civic role to play for the nation. Science and technology are integral to all our lives as citizens, perhaps so integral that we often take them for granted, like sunlight or rain. However, nobody understands better than we who are scientists what it takes to build a strong science and technology presence. If we think about it, we might also realize how vulnerable that capacity can become in just a brief time....

## Physics Enrollments Decline

PhD awards in physics have held up pretty well in recent years, according to the latest "Enrollment and Degrees Report" from the American Institute of Physics. But the AIP data show a substantial decline in junior and senior physics majors and in first-year graduate enrollments, indicating a coming drop in doctoral awards.

The report concludes that in a weak job market, "The supply end of this imbalance is starting to adjust with first-year graduate student enrollments declining for the third consecutive year"—by 10 percent last year and 21 percent since 1992. "A decline of this amplitude," it notes, "has not been seen since the early 1970s, also a period of poor employment prospects for physics doctorates."

PhD awards rose from 972 in 1984-85 to 1481 in 1993-94. But the input at the lower levels has tapered off, with junior physics majors declining from 6601 to 5620 over the same decade, while first-year graduate enrollments went from 2863 to 2604. The big exception to these trends was in astronomy, where enrollments and degrees, though relatively small in number, were up at all levels.

Copies of the "Enrollments and Degrees Report," AIP Pub. No. R-151.32, are available without charge from: AIP, Statistics Division, One Physics Ellipse, College Park, Md. 20740-3843; tel. 301/209-3070; fax 301/209-0843.

## Job Changes & Appointments

**Peter D. Blair**, Assistant Director of the Office of Technology Assessment at the time of its demise last fall, has been appointed Executive Director of Sigma Xi, a national scientific society, based in Research Triangle Park, North Carolina. The organization, with a membership of 90,000, publishes the *American Scientist*, awards grants to young researchers, and sponsors conferences. Starting in mid-April, Blair will succeed **John F. Ahearn**, who is teaching at Duke University while also heading the recently established Sigma Xi Center, a meeting place for scientists and policymakers.

**Philip Pizzo**, Chief of the Pediatric Branch in the Clinical Oncology Program of the National Cancer Institute, will move this summer to Children's Hospital, Boston, where he will be Physician in Chief and Chairman of the Department of Medicine. The hospital is affiliated with Harvard Medical School, where he will also be Chairman of Pediatrics. Pizzo, at NIH since 1973, succeeds **David Nathan**, who, following retirement from Children's Hospital, became President of the Dana Farber Cancer Institute.

Also at NIH: **Audrey S. Penn**, Professor of Neurology at Columbia Univ.'s College of Physicians, has been appointed Deputy Director of the National Institute of Neurological Disorders and Stroke. She succeeds **Patricia A. Grady**, now Director of the National Institute of Nursing Research.

## In Print

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**From the General Accounting Office (GAO), no charge:** *Federal Research: Preliminary Information on the Small Business Technology Transfer Program* (GAO/RCED-96-19; 34 pp.), an inconclusive review of a small but rapidly growing and little-publicized federal R&D program, the Small Business Technology Transfer Pilot Program, established in 1992 to provide small firms with up to \$500,000 each for commercial development of research results originating in academic and government laboratories. The budget for this work was set as an increasing percentage of the external research spending of the Departments of Defense and Energy, NIH, NSF, and NASA, and has risen to a minimum of 0.15 percent this year, which works out to a total of \$60 million. The transfer program is a close relative of the Small Business Innovation Research (SBIR) program, a 1982 creation which subsidizes R&D in small firms with a 2 percent "tax" on virtually all external research financed by federal agencies. Responding to concerns that conflicts of interest in the tech-transfer program might arise when a federal agency is asked for funds to develop research originating in one of its own research centers, the GAO said the agencies are on alert for the problem. It also concluded that it's too early to rate the effectiveness of the transfer program. Also noted was that the agencies paying for the program felt it needlessly overlapped the older SBIR program.

**Federal Research: Information on Fees for Selected Federally Funded Research and Development Centers** (GAO/RCED-96-31FS; 28 pp.), a glimpse into the wondrously elastic accountancy of the federally funded R&D centers operated by the Departments of Energy and Defense and NASA—which account for 30 of the 39 centers funded by federal agencies. Among the centers in the report are DOE's Argonne, Brookhaven and Fermi labs; DOD's Lincoln Lab and Software Engineering Institute, and NASA's Jet Propulsion lab. The educational, industrial and other contractor organizations that run the labs for the three agencies received a total of \$185 million in fees and management allowances in 1994, according to the GAO. In the absence of government-wide payment guides for the contractors, each agency was found to have its own practices, with the Energy Department, as usual, off in its own never-never land, according to the GAO: "Although DOE's policy is generally not to pay fees to educational institutions," the report says, "9 out of 11 such institutions received a fee or management allowance."

**Order from:** USGAO, PO Box 6015, Gaithersburg, Md. 20884-6015; tel. 202/512-6000; fax 301/258-4066.

**From Public Employees for Environmental Responsibility:**

**PEERReview** (quarterly, 12 pp., \$30 per year), privately published Washington-based newsletter, strong on reports of abuse of environmental laws and mistreatment of federal employees trying to fulfill environmental responsibilities.

The Winter 1996 issue reports on a law suit against staff reductions at the US Geological Service, charging an "illegal purge" of "whistleblowers." Also covered are environmental issues in Congress, state and regional news, etc. The publication reports a paid circulation of about 2000, plus 9000 copies distributed free.

**Order from:** Public Employees For Environmental Responsibility, 2001 S St. NW, Suite 570, Wash., DC 20009; tel. 202/265-7337; fax 202/265-4192; e-mail: 76554.133@compuserve.com

**From the National Institute of Standards and Technology (NIST):**

**Survey of Advanced Technology Program 1990-92 Awardees: Company Opinion About the ATP and Its Early Effects** (75 pp., plus appendixes; no charge), a report released last month by Commerce Secretary Ron Brown as evidence of favorable results from ATP, the Clinton industrial R&D booster program slated for termination by Congressional Republicans. The report, prepared by a consulting firm, Silber & Associates, Clarksville, Md., says that all but three of the 122 firms surveyed "expressed clear-cut satisfaction" with the program and that "Many maintain that the ATP has been the lifeblood of their company's innovative research efforts." That cheerful assessment evoked a tart rejoinder from ATP's leading tormentor in the House, Science Committee Chairman Robert Walker (R-Pa.), who deemed the study "an unwise use of taxpayer monies," adding that "It is not surprising that grant recipients were enthusiastic about receiving federal dollars." The Silber study says many of the participating firms reported that their ATP awards encouraged them to increase their own research expenditures and that it has accelerated the development of commercial products.

**Order from:** National Institute of Standards and Technology, Building 101, Room A-303, Gaithersburg, Md. 20899; tel. 301/975-4332; fax 301/921-6319.

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# In Print

Official reports and other publications of special interest to the research community

*(Copies of publications listed here are available from the indicated sources—not from SGR)*

**From the National Academy of Sciences (NAS):**

***Carcinogens and Anticarcinogens in the Human Diet: A Comparison of Naturally Occurring and Synthetic Substances*** (417 pp., \$44.95, plus \$4 for shipping), from the high temple of science, another helping of dietary confusion for the puzzled public: Don't waste anxiety or menu acrobatics on fears of cancer-causing pesticides and other man-made chemicals in food, says the report. Unless present in large quantities, it states, they pose little or no danger to health, and are usually less of a menace than naturally occurring carcinogens, which are described as generally harmless in moderate consumption. Excessive fat, alcohol, and too many calories are described as far bigger risks to health in the report, produced by the NAS Committee on Comparative Toxicity of Naturally Occurring Carcinogens, chaired by Ronald W. Estabrook, Chairman, Department of Biochemistry, University of Texas Southwestern Medical Center, Dallas. J. David Sandler of the Academy staff was Staff Officer for the study.

***The Arctic Aeromedical Laboratory's Thyroid Function Study: A Radiological Risk and Ethical Analysis*** (104 pp., \$34 plus \$4 for shipping), reviews a long-ago episode of medical experimentation that would probably set the ethical alarm bells ringing today—the administration of radioactive iodine-131 tracers to 102 native Alaskans and 19 US military servicemen in 1955-57 by the now-defunct Air Force Arctic Aeromedical Laboratory. The project, conducted with minimal, if any, informed consent, concluded that the thyroid has no role in helping humans adapt to Arctic cold.

The review was conducted at the request of Senator Frank Murkowski (R-Alaska), who said that the iodine tests have undermined Alaskans' trust in "the community of scientists and researchers who work in the Arctic." The Academy's reviewers stated that the dosages were too low to cause harmful effects, but that the experiment was "ethically flawed even by 1950s standards" and the participants were "wronged." The report adds, however, that the Aeromedical researchers "were conscientious scientists who held a genuine belief, justified at the time, that their research was both harmless and important." Whatever the wrongs, the report states, "it is vital to emphasize that it is inappropriate to place blame."

The NAS report says the federal government should acknowledge the wrong and include the participants under any legislation designed to redress victims of such episodes. The report was produced by a committee chaired by Chester M. Pierce of Harvard Medical School. Chris Elfring of the NAS staff was Study Director for the final phase of the report.

**Order from:** National Academy Press, 2101 Constitution Ave. NW, Washington, DC 20418; tel. 1-800/624-6242 or 202/334-3313.

**From the Federation of American Societies for Experimental Biology (FASEB):**

***Sustaining the Commitment: Federal Funding for Biomedical and Related Life Sciences Research—FY 1997*** (78 pp., no charge), from the 44,000-member FASEB, which embraces 10 scientific societies, the sixth annual assemblage of hopes and nudgets concerning next year's budgets for NIH, NSF, NASA, and the Departments of Veterans Affairs, Energy and Agriculture. For NIH, the bankroll of main interest for the membership, FASEB recommends a 6.5 percent increase, a bit ahead of the boost NIH unexpectedly received for the current fiscal year in a hurried and confused late Congressional session in January. For NSF, whose budget held about steady this year, it recommends a 12.1 percent increase. The realism of this advisory exercise invites wonder, but in the fiscal turmoil prevailing in Washington, it's uncertain who's listening or what might start a stampede. The report also endorses competitive merit review, says training of new scientists should "remain a national priority," and in an innovative reach for new research money says that if farm price supports are reduced, the savings should be redeployed to the competitive grants program at the US Department of Agriculture. FASEB, long an exemplar of bold advocacy for generous federal support of biomedical research, recently announced a \$1.5 million campaign in behalf of that cause [SGR, January 15].

**Order from:** FASEB, Office of Policy Analysis and Research, 9650 Rockville Pike, Bethesda, MD 20814; tel. 301/571-0657; fax 301/571-0686; also available on the World Wide Web: <http://www.faseb.org/opar/opar.html>

**From the American Association for the Advancement of Science (AAAS):**

***Professional Ethics Report*** (8 pp., no charge), quarterly newsletter, now in its ninth year, focuses on issues of ethical behavior in science and technology. Included are original articles, reviews, meeting reports and schedules, program announcements of funding organizations, letters, etc. Useful for the programs of ethics instruction mandated by federal agencies.

Also available: annotated indexes of the reports—1988-91 (21 pp., \$5); 1992-94 (18 pp., \$4).

**Order from:** AAAS Scientific Freedom, Responsibility and Law Program, attn. Kamla Butaney, 1333 H St. NW, Washington, DC 20005; tel. 202/326-6600; fax 202/289-4950; e-mail: [kbutaney@aaas.org](mailto:kbutaney@aaas.org)

**From the International Council of Scientific Unions:**

***Science International*** (previously quarterly, now semi-annual; 36 pp., no charge), newsletter of the global umbrella of scientific research organizations, encompassing over 100 national science academies, research councils, and professional societies. Contains reports on meetings of member organizations, ICSU governance, publications, personnel appointments, obituaries, etc.

**Order from:** ICSU Secretariat, 51 Blvd. de Montmorency, Paris 75016, France; tel. (33-1) 45 25 03 29; fax (33-1) 42 88 94 31; e-mail [icsu@lmcp.jussieu.fr](mailto:icsu@lmcp.jussieu.fr) *(Continued on Page 7)*

